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June 1, 1994

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M. Street, N.W. Room 222
Washington, DC 20554

Re: MM Docket No. 87-268

Dear Mr. Caton:

On April 19, Peter Bingham of Philips Laboratories, Jim Carnes of the David Sarnoff Research Center, Joe Donahue of Thomson Consumer Electronics, Rick Friedland of General Instrument, Jae Lim of MIT, Jerry Pearlman of Zenith Electronics and I met with Chairman Hundt and Merrill Spiegel. We discussed the HDTV Grand Alliance and gave a progress report on efforts to work with the Commission's Advisory Committee on Advanced Television to establish an all-digital HDTV transmission standard for the United States.

Attached are copies of the materials we used in the meeting.

Sincerely,

Robert Graves
/cs

Attachments

No. of Copies rec'd 0+1
List ABCDE

HDTV GRAND ALLIANCE

- **AT&T**
  Robert Graves, Video Technology/Infrastructure VP

- **General Instrument**
  Rick Friedland, President and COO

- **MIT**
  Jae Lim, Professor of Electrical Engineering

- **Philips**
  Peter Bingham, President, Philips Laboratories

- **Sarnoff**
  Jim Carnes, President and CEO

- **Thomson**
  Joe Donahue, Senior VP, Technology & Bus. Develpmt

- **Zenith**
  Jerry Pearlman, Chairman and CEO

PURPOSE

- Discuss urgent need for active, public support by the Commission for the HDTV process

- Recommend specific Commission actions

- Understand Chairman's views and any concerns

BACKGROUND

- 23 proposals in '87
- Four all-digital systems tested in '92
- 5/93: Grand Alliance "best-of-the-best"
- Current status:
  - Specs finalized, approved by ACATS TSG
  - Prototype under construction
  - Preliminary RF testing under way
- Schedule:
  - Full system testing - fall '94
  - ACATS recommendation - early '95
  - Final FCC standard - 2H95
  - First service - late '96 or early '97
- Grand Alliance investment >$200 million
  - Plus industry investment of millions in test centers
  - Plus many person-years by dozens of companies
  - No government funding
  - Effective government/industry cooperation
- Loss of momentum
  - Specs, approvals, construction of prototype
  - Broadcaster proposals re new transmission system, flexible use
  - Administration, FCC transition-virtual silence
- Urgent need for visible FCC leadership

THE ENTERTAINMENT VALUE OF HDTV

- **Dazzling pictures, terrific sound**
  - High resolution
  - Large, wide screens
  - No snow or ghosts
  - 6-channel surround sound
- **6-channel sound; high-resolution, large, wide screens; no snow or ghosts**
- **Vital to preserving "free" TV**
  - Cable, DBS, stored media alternatives
- **Quantum improvement that warrants use of the conversion channel**

HDTV AND ECONOMIC GROWTH

- **High-skilled, high-wage jobs**
  - Integrated circuits, displays, receivers, studio and transmission equipment, peripheral equipment, programming, software development
- **Lower costs for non-entertainment applications**
  - Business video teleconferencing
  - Medical applications
  - Education and training applications
- **Standard required to turn loose creative forces and catalyze industry investment**
- **Must not snatch defeat from jaws of victory in international economic competition**

HDTV AND NII

- "Low-fruit" opportunity to improve NII
- 20 Mbps information superhighway off-ramp
- Tremendous flexibility from packetized transport
  - Transparent information services
  - Multiple lower resolution programs, e.g., PBS daytime broadcasts to schools
- Potential to ameliorate "haves/have-nots", promote universal access
- Opportunity to link 7-year process to key Clinton/Gore Administration initiative
  - Must not and need not delay the process

FLEXIBLE USE OF THE HDTV CHANNEL

- HDTV must be the centerpiece
- GA members differ re use for multi-channel lower resolution
- Commission should establish policies
  - Promote rapid adoption of HDTV
  - Ensure technical quality for "free" TV
  - Consider NII impacts
  - Must not and need not delay the process

SUMMARY

The Commission should:

- Publicly reiterate its support
- Establish specific timetables
- Explore aspects for early resolution
- Consider Olympics goal
- Reiterate decision that ATV is HDTV
- Consider rulemaking re flexible use
- Champion effort to demonstrate NII benefits

GRAND ALLIANCE MEETING WITH CHAIRMAN HUNDT

April 19, 1994

1. **We're in the home stretch of an impressive FCC/ACATS process that will deliver the world's best HDTV system. More than ever, we need active, public support from the Commission to bring the process to a successful conclusion.**

   - Started in '87, way behind Japan and Europe, with 23 proposals. By '93, whittled down to four all-digital, tested prototype systems. Now Japan and Europe are playing catchup-it's not whether, but when and how they'll move to implement digital HDTV.

   - With FCC and ACATS urging, proponents formed Grand Alliance in 5/93 to produce a best-of-the-best system and to avoid costly retesting with the risk of ambiguous results. Decision to support five progressive formats and one interlaced format was key breakthrough.

   - Current status: system specifications finalized, approved by ACATS Technical Subgroup. Prototype system under construction, over-the-air and cable RF field testing under way, full system laboratory testing this fall, ACATS recommendation in early '95, final FCC standard expected by 2H95, first service by late '96 or early '97. Grand Alliance proponents have invested well over $200 million to date (with no government funding), the industry has invested millions to establish and operate sophisticated testing facilities, and dozens of companies have devoted many person-years to the ACATS standards process.

   - Under four FCC Chairmen (Patrick, Sikes, Quello, Hundt) and ACATS Chairman Wiley, FCC/ACATS process has been a superb example of effective government/industry cooperation (cited in Clinton/Gore campaign technology paper). Chairman Hundt now has the opportunity and the challenge to bring the process home to a successful and timely conclusion.

   - More than ever, we need strong, visible support from the Commission to keep the process on track. The hiatus in fully specifying the GA system, in making ACATS changes and getting their approval, and in constructing and testing the prototype has contributed to a loss of momentum among broadcasters. This has been exacerbated by broadcaster proposals regarding alternative transmission systems and flexible or alternative uses of the HDTV channel. The transition to a new administration and a new FCC, with almost no public mention of HDTV, has further slowed our momentum.

2. **The sin qua non of HDTV is the entertainment value that digital, high resolution brings.**

- HDTV is about dazzling pictures and terrific sound that will knock consumers' socks off.

- Digital HDTV brings CD-quality 6-channel sound and spectacular wide-screen pictures, without snow or ghosts, that will look terrific on large TVs.

- As the Commission has found in the past, it is this kind of quantum improvement in the technical quality of "free" (advertiser-supported) over-the-air TV that warrants the use of valuable spectrum for the purpose of conversion. Such quality will be available over cable and satellite and on tapes and discs, and we believe it is absolutely vital that broadcasters also be able to deliver it, or "free" terrestrial television will fall by the wayside as a technically inferior service.

- We disagree with those few broadcasters who feel that digital 525-line (standard resolution) TV is an adequate improvement. Moreover, if this view became prevalent among broadcasters, the Commission could accommodate all of the existing broadcasters within one or two 6-MHz channels, and use the rest of this valuable spectrum either for new broadcast entrants or for other services such as PCS, using auctions to assign the spectrum.

3. **Rapid implementation of the Grand Alliance proposed HDTV system will promote economic growth, create jobs, and solidify the U.S. technology lead.**

- High-skilled, high-wage jobs will be created and maintained in the design and manufacture of HDTV receivers, displays, integrated circuits and other components, studio and transmission equipment, peripheral equipment, and programming and software development.

- Economies of scale from substantial penetration of the consumer market will lower costs, making HDTV affordable for other applications such as business teleconferencing and health care. For example, numerous medical applications of high resolution video have been identified, including remote diagnosis, minimal invasive surgery, electronic storage and computer-aided analysis of x-rays and other image modalities. Here, high resolution is necessary, and consumer use of HDTV can drive down costs and thereby accelerate the use of HDTV technology for these medical applications.

- Only when the standard is set, or the handwriting is clearly on the wall, will the creative forces become fully

engaged in the industries that develop chips, cameras and other production equipment, transmission equipment, displays, receivers and other equipment, both for entertainment television and for other applications. The American people can reap these economic benefits--jobs, growth and cost-effective new products and services--only if we act quickly to take advantage of our technological lead in digital HDTV technology.

4. **HDTV represents a "low-fruit" opportunity to implement a significant improvement in the evolving national information infrastructure (NII).**

- As important as the entertainment value of HDTV is, digital HDTV brings a whole lot more than dazzling pictures and terrific sound. Digital HDTV will establish a broadband (20 mbps) data channel into American homes which can be used to deliver a wide variety of information services in addition to entertainment television. This represents a broad, paved, off-ramp from the information superhighway.

- Entertainment services are an important part of NII in their own right, but they are particularly vital in improving NII since they can help pay the way for general communications capabilities that are useful for other applications, including education and health care. As described above, HDTV is a perfect example of this synergy.

- But beyond this, by using a packetized data transport structure with headers and descriptors, the Grand Alliance system gives incredible flexibility to reallocate the digital bit stream to provide a wide variety of video, audio, voice, data or multimedia services over the HDTV channel. Many of these services could be provided concurrently with the full HDTV program, while others could be provided in place of the HDTV program, for instance, at different times of the day. For example, a local PBS station could broadcast HDTV programs like National Geographic specials or ballets during the evening "prime time" hours (along with ancillary data services like weather forecasts or stock quotes that would only be apparent to people who wanted to use them), then during school hours the station could deliver five or ten simultaneous education programs to local schools and homes.

- HDTV may be a particularly attractive means of improving the NII in that "free", over-the-air HDTV holds out the promise of delivering information services without specific charges, thus helping to avoid a "haves/have-nots" dichotomy that is of such concern to the

Clinton/Gore Administration and other government policy makers.

- We believe a crucial contribution for the Hundt FCC would be to work with industry, ACATS and the Administration to formalize the link between HDTV and NII. This can be done without delaying the standards process, because the FCC and ACATS have already placed a heavy emphasis on the importance of interoperability with computers and telecommunications--the essential elements required to ensure compatibility with the evolving NII. Most recently, ACATS and ATSC have jointly commissioned a liaison group to interact with other government and industry teams working on the NII. We need support from the FCC to help these other groups understand the contributions to NII that digital HDTV offers, and to win their support for completing the HDTV standards process as expeditiously as possible.

5. **HDTV must be the centerpiece of any flexible use of the conversion channel.**

- The Grand Alliance members all support the flexible use by broadcasters of the conversion channel, if and only if such use does not impede the introduction and deployment of HDTV. "In addition to HDTV" is okay, "instead of HDTV" we oppose.

- Use of the channel for digital multi-channel 525-line TV is the most controversial potential use, and there is some difference of opinion among Grand Alliance members on this issue. Some believe that any use of the channel for multi-channel standard resolution programs will ultimately diminish the demand for true HDTV, while others believe that limited use of this kind, such as in the PBS example above, could help broadcasters pay for the conversion to HDTV.

- We believe that the Commission should decide what flexibility to afford broadcasters, consistent with its objective to improve the technical quality of television service and its commitment to preserve "free" over-the-air television.

- This flexibility issue has important implications for the contributions that HDTV can make to NII, but any Commission deliberations on this topic need not delay the HDTV standards process. This is true first because HDTV should be the centerpiece application that primarily pays for deploying the channel, and second because the HDTV system provides such great flexibility to accommodate a wide variety of other services as well.

6. **We need strong and visible leadership from the Commission to help regain the momentum for the rapid deployment of HDTV. The Commission should:**

- Publicly reiterate its support for completing the HDTV standards process as soon as possible. Establish specific timetable goals for completing the standard.

- Work with ACATS and the Grand Alliance to explore what aspects of the standard might be amenable to early resolution. Such action might help broadcasters and others get moving sooner toward actual implementation activities, e.g., it could help in getting the commitments needed to produce demonstration broadcasts of the 1996 Olympics in Atlanta. Consider setting the Atlanta Olympics as a national goal for the introduction of digital HDTV service in the U.S.

- Reiterate its conclusion that "high definition television" is the specific advanced television service for which the conversion channel is being offered to broadcasters.

- Consider conducting a rulemaking proceeding this year examining flexible use of the HDTV channel and what restrictions (e.g., minimum hours of HDTV broadcasts, other allowable uses) might be appropriate for ensuring that such use facilitates rather than impedes the rapid introduction of HDTV service.

- Champion the effort to demonstrate the substantial contributions that HDTV can make to improving NII.